

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

I. (previously presented): A data transfer system for transferring data over a serial bus via a communication network to another serial bus, said system comprising:

a packet selecting section for selecting only one or more specified packets out of a plurality of packets received in a serial manner over a serial bus, based on header information included in each of the plurality of received packets;

a packet creating section for collecting said one or more specified packets selected by said packet selecting section, in order of received timing, to create a transfer packet;


a cell sending section for converting said transfer packets created by said packet creating section into a cell able to be sent onto said communication network and then sending said cell onto said communication network;

a packet reconfiguring section for receiving said cell from said predetermined communication network and then reconfiguring a packet so as to have same contents as said transfer packet created by said packet creating section; and

a packet dividing/transferring section for dividing said transfer packet reconfigured by said packet reconfiguring section and then transferring a plurality of the divided packets in a serial manner over the other serial bus.

2. (previously presented): The data transfer system according to claim 1, wherein said packet creating section collects one or more specified packets selected by said packet selecting section every specified time lapse.

3. (previously presented): The data transfer system according to claim 1, wherein said packet creating section includes, in each of the selected one or more specified packets, information of time when the selected one or more specified packets have been transmitted over said serial bus.

 4. (currently amended): The data transfer system according to claim 1, wherein said packet dividing/transferring section transfers said divided packet in said serial manner based on ~~said~~ a time information and a transmission cycle offset.

5. (previously presented): The data transfer system according to claim 4, wherein said packet dividing/transferring section decides a cycle during which said divided packet is to be transmitted, based on said time information and a transmission cycle offset.

6. (previously presented): The data transfer system according to claim 1, wherein each of said plurality of packets, transferred to said packet creating section is an isochronous packet in accordance with IEEE1394 Standards.

7. (previously presented): The data transfer system according to claim 1, wherein each of said plurality of the divided packets transferred from said packet dividing/transferring section is an isochronous packet in accordance with IEEE1394 Standards.

8. (previously presented): The data transfer system according to claim 1, wherein said communication network is configured from one virtual channel for connecting between a specified transmission source and a specified bridge transmission destination bridge.

9. (original): The data transfer system according to claim 1, wherein each of a transmission source and a transmission destination which are connected to said predetermined communication network is a terminal connected to one serial bus.

10. (original): The data transfer system according to claim 1, wherein said predetermined communication network is configured from a plurality of virtual channels and wherein a predetermined channel of said plurality of virtual channels is specified to each packet transferred to said packet creating section.

11. (original): The data transfer system according to claim 10, wherein information of said predetermined channel of a virtual channel, of said plurality of virtual channels, is sent to both said packet reconfiguring section and said packet dividing/transferring section.

12. (previously presented): The data transfer system according to claim 11, wherein said packet dividing/transferring section transfers each of said divided packets based on said predetermined channel information.

13. (original): The data transfer system according to claim 10, wherein a transmission source connected to said predetermined communication network is a terminal connected to one serial bus, while communication destination terminals connected to said predetermined communication network are terminals connected to mutually different serial buses.

14. (previously presented): A data transfer system for transferring data over a serial bus via a communication network to another serial bus, said system comprising:

a packet selecting program for selecting only one or more specified packets out of a plurality of packets received in a serial manner over a serial bus, based on header information included in each of the plurality of received packets;

a packet creating program for collecting said one or more specified packets selected by said packet selecting program, in order of received timing, to create a transfer packet;

a cell sending program for converting said transfer packets created by said packet creating program into a cell able to be sent onto said communication network and then sending said cell onto said communication network;

a packet reconfiguring program for receiving said cell from said predetermined communication network and then reconfiguring a packet so as to have same contents as said transfer packet created by said packet creating program; and

a packet dividing/transferring program for dividing said transfer packet reconfigured by said packet reconfiguring program and then transferring a plurality of the divided packets in a serial manner over the other serial bus.

15. (original): The data transfer system according to claim 14, wherein said packet creating program collects said plurality of packets transferred in the serial manner every first time lapse.


16. (original): The data transfer system according to claim 14, wherein said packet creating program includes, in said packet, information of time when said plurality of packets are sent.

17. (currently amended): The data transfer system according to claim 14, wherein said packet dividing/transferring program transfers said divided packet in said serial manner based on ~~said~~ a time information.

18. (original): The data transfer system according to claim 17, wherein said packet dividing/transferring program decides a cycle during which said divided packet is to be transmitted, based on said time information.

19. (original): The data transfer system according to claim 14, wherein a packet, of said plurality of packets, transferred to said packet creating program is an isochronous packet in accordance with IEEE1394 Standards.

20. (original): The data transfer system according to claim 14, wherein a packet, of said plurality of packets, transferred to said packet dividing/transferring program is an isochronous packet in accordance with IEEE1394 Standards.


 21. (original): The data transfer system according to claim 14, wherein said predetermined communication network is configured from one virtual channel.

22. (original): The data transfer system according to claim 14, wherein each of a transmission source and a transmission destination which are connected to said predetermined communication network is a terminal connected to one serial bus.

23. (original): The data transfer system according to claim 14, wherein said predetermined communication network is configured from a plurality of virtual channels and wherein a predetermined channel of said plurality of virtual channels is specified to each packet transferred to said packet creating program.

24. (original): The data transfer system according to claim 23, wherein information of said predetermined channel of a virtual channel, of said plurality of virtual channels, is sent to both said packet reconfiguring program and said packet dividing/transferring program.

25. (original): The data transfer system according to claim 24, wherein said packet dividing/transferring program transfers said divided packet based on said predetermined channel information.

 26. (original): The data transfer system according to claim 23, wherein a transmission source connected to said predetermined communication network is a terminal connected to one serial bus, while communication destination terminals connected to said predetermined communication network are terminals connected to mutually different serial buses.

27. (previously presented): A data transfer method for transferring data over a serial bus via a communication network to another serial bus, said method comprising the steps of:

selecting, as a first step, only one or more specified packets out of a plurality of packets received in a serial manner over a serial bus, based on header information included in each of the plurality of received packets;

collecting, as a second step, said one or more specified packets selected in said first step, in order of received timing, to create a transfer packet;

converting, as a third step, said transfer packet created by said second step into a cell able to be sent to said communication network and then sending said cell to said communication network;

receiving, as a fourth step, said cell from said communication network and reconfiguring a packet so as to have same contents as said transfer packet created in said second step; and

dividing, as a fifth step, said transfer packet reconfigured by said fourth step and transferring a plurality of the divided packets in a serial manner over the other serial bus.

28. (original): The data transfer method according to claim 27, wherein said first step collects said plurality of packets transferred in the serial manner, every a first time lapse.


29. (original): The data transfer method according to claim 27, wherein said first step includes information of time when said plurality of packets were sent, in said packet.

30. (currently amended): The data transfer method according to claim 27, wherein said fifth step transfers said divided packet in the serial manner based on ~~said~~ a time information.

31. (previously presented): The data transfer method according to claim 30, wherein said fifth step decides a cycle during which said divided packet is to be transmitted, based on said time information.

32. (previously presented): The data transfer method according to claim 27, wherein a packet transferred at said second step is an isochronous packet in accordance with IEEE1394 Standards

33. (previously presented): The data transfer method according to claim 27, wherein a packet transferred at said fifth step is an isochronous packet in accordance with IEEE1394 Standards.


 34. (original): The data transfer method according to claim 27, wherein said predetermined communication network is configured from one virtual channel.

35. (original): The data transfer method according to claim 27, wherein each of a transmission source and a transmission destination which are connected to said predetermined communication network is a terminal connected to one serial bus.

36. (original): The data transfer method according to claim 27, wherein said predetermined communication network is configured from a plurality of virtual channels and wherein a predetermined channel of said plurality of virtual channels is specified to each packet transferred in the serial manner at said first step.

37. (previously presented): The data transfer method according to claim 36, wherein predetermined channel information of said virtual channels is sent through said predetermined communication network at said fourth step and at said fifth step.


38. (previously presented): The data transfer method according to claim 37, wherein said fifth step transfers said divided packet based on said predetermined channel information.

 39. (original): The data transfer method according to claim 36, wherein a transmission source connected to said predetermined communication network is a terminal connected to one serial bus, while transmission destination terminals connected to said predetermined communication network are terminals connected to mutually different serial buses.

40. (previously presented): A data transfer system for transferring data over a serial bus via a communication network to another serial bus, said system comprising:

a packet selecting section for selecting only one or more specified packets out of a plurality of packets received in a serial manner over a serial bus, by comparing a channel number included in a header each of the plurality of received packets with at least one pre-registered channel number;

a packet creating section for collecting said one or more specified packets selected by said packet selecting section, in order of received timing, to create a transfer packet;

 a cell sending section for converting said transfer packets created by said packet creating section into a cell able to be sent onto said communication network and then sending said cell onto said communication network;

a packet reconfiguring section for receiving said cell from said predetermined communication network and then reconfiguring a packet so as to have same contents as said transfer packet created by said packet creating section; and

a packet dividing/transferring section for dividing said transfer packet reconfigured by said packet reconfiguring section and then transferring a plurality of the divided packets in a serial manner over the other serial bus.
